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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/692,541	10/24/2003	Phillip B. Hess	047711-0322	1122

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EXAMINER

A, MINH D

ART UNIT	PAPER NUMBER
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2821

DATE MAILED: 07/01/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/692,541

Applicant(s)

HESS ET AL.

Examiner

Minh D A

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/11/05.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 27-34 is/are allowed.
- 6) ☒ Claim(s) 1-18, 20-22, 24-26 and 35-45 is/are rejected.
- 7) ☒ Claim(s) 19 and 23 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2/23/04.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-18 and 20-22, 24-26 and 35-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over by Ieda et al (US 2001/0026244) in view of Seward et al (US 6107972).

Regarding claims 1, and 35, Ieda discloses an antenna comprising: a first core (10); a first winding disposed about the first core (10) for transmitting/receiving electromagnetic signals; a second winding for transmitting/receiving electromagnetic signals disposed about the first core (10) and the first winding; wherein the first winding and the second winding are wound such that a direction of a first magnetic field generated by the first winding is different than a direction of a second magnetic field generated by the second winding. See figures 1 -4, col.2, lines [023] to col.3, lines [0043] to [0047]. Ieda does not disclose that, an activation circuitry connected to the first winding and the second winding, wherein the activation circuitry activates the first winding separately from the second winding.

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Seward discloses a multiplexer is connected to the first winding and the second winding, wherein the multiplexer activates the first winding separately from the second winding. See figures 1-2, col.5, lines 21-67 to col.9, lines 1-52.

It would have been an obvious to one of ordinary skill in the art at the time the invention was made to employ a multiplexer such as that suggested by Seward in the antenna of Conti to separate the windings, since it can provide a different radio frequency signal and transmitting and receiving.

Regarding claims 2 and 36, Ieda and Seward do not teach that, the first core is air. It would have been an obvious matter of design choice to employ air core, since applicant has not disclosed that the air core solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with the air core.

Regarding claims 3 and 37, Ieda discloses wherein the first core is a ferrite. See col.3, lines 58-65.

Regarding claims 4 and 38, Ieda discloses wherein the first winding is wound as a helical solenoid around the first core. See figures 1-6.

Regarding claims 5 and 39, Ieda discloses wherein the first winding is wound as a rectangular solenoid around the first core (18). See figures 1-6.

Regarding claims 6 and 40, Ieda discloses wherein the second winding is wound as a helical (24) solenoid around the first core. See figure 1-5.

Regarding claims 7 and 41, Ieda discloses wherein the second winding is wound as a rectangular solenoid around the first core. See figures 1-5.

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Regarding claims 8 and 42, ledai discloses a third winding , wherein the third winding is disposed about the first core), the first winding and the second winding, and wherein the third winding is wound such that a direction of a third magnetic field generated by the third winding is different than the direction of the first magnetic field and the second magnetic field. See figures 1 -4, col.2, lines [023] to col.3, lines [0043] to [0047].

Regarding claims 9 and 43, ledai discloses the third winding is wound as a helical solenoid round the first core. See figures 1-5.

Regarding claims 10 and 44, ledai disclosesi discloses wherein the third winding is wound as a rectangular solenoid around the first core. See figures 1.

Regarding claims 11-12, ledai discloses the activation circuitry comprises a multiplexer for facilitating separate activation of the first winding and the second winding. See figures 1-6.

Regarding claim 13, ledai discloses the first winding and the second winding transmit radio frequency signal. See figure 1.

Regarding claim 14, ledai discloses the first winding and the second winding receive a radio frequency signal. See figures 1-5.

Regarding claim 15, ledai discloses discloses wherein the third winding transmits a radio frequency signal. See figures 1- 5.

Regarding claim 16, ledai discloses disscloses wherein the third winding receives a radio frequency signal. See figures 1-5.

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Regarding claims 17 and 45, ledai discloses disclose the direction of the first magnetic field is orthogonal to the direction of the second magnetic field. See figures 1 and 5.

Regarding claims 18 and 46, ledai discloses wherein the direction of the third magnetic field is orthogonal to the direction of the first magnetic field and the second magnetic field. See figures 1 and 5.

Regarding claim 20, ledai discloses wherein the first winding is optimized for high permeability. See col.3, lines 1-32.

Regarding claim 21, ledai discloses wherein the second winding is optimized for high permeability. See col.3, lines 1-32.

Regarding claim 22, ledai discloses the third winding is optimized for high permeability. See col.3, lines 1-32.

Regarding claim 23,d ledai discloses wherein at least one of the fourth winding and the fifth winding is optimized for high permeability. See figure 1.

Regarding claim 24, ledai discloses at least one of the first winding and the second winding is shielded. See figures 1 and 5, col.3, lines 25-38.

Regarding claim 25, ledai discloses wherein the third winding is shielded. See figures 1 and 5, col.3, lines 25-38.

Regarding claim 26, ledai discloses wherein the first winding and the second winding are balanced. See figures 1 and 5, col.3, lines 25-38.

Allowable Subject Matter

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3. Claims 19 and 23, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is an examiner's statement of reasons for allowance:

The prior art does not teach that, a second core; a fourth winding disposed about the second core for transmitting/receiving electromagnetic signals; and a fifth winding for transmitting/receiving electromagnetic signals disposed about the second core and the fourth winding, wherein the fifth winding is serially connected to the second winding recited in dependent claim 19.

The prior art does not teach that, a first core disposed on an implantable unit; a local first winding disposed about the first core for transmitting/receiving RF signals; at least one local second winding for transmitting/receiving electromagnetic signals disposed about the first core and the local first winding; a second core disposed on a remote unit; a remote first winding disposed about the second core for transmitting/receiving RF signals; and at least one remote second winding for transmitting/receiving electromagnetic signals disposed about the second core and the remote first winding, wherein magnetic fields are coupled between the local first winding and the at least one local second winding on the first core and the remote first winding and the at least one remote second winding on the second core recited in independent claim 27.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Kropoelnicki et al (US RE37,835 E) and Cern et al. (US 6,646,447) are cited to show a core antenna.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Examiner Minh A whose telephone number is (571) 272-1817. The examiner can normally be reached on M-F (5:30 –2:30 PM).

If attempts to reach the examiner by telephone is unsuccessful, the examiner's supervisor, Don Wong, can be reached on (571) 272-1834. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306 for regular communications and (703) 872-9319 for final communications.

Any inquiry of a general nature or relating to the status of this application should be directed to the Technology Center receptionist whose telephone number is (571) 272-1553.


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Examiner

Minh A

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6/17/05


WILSON LEE
PRIMARY EXAMINER